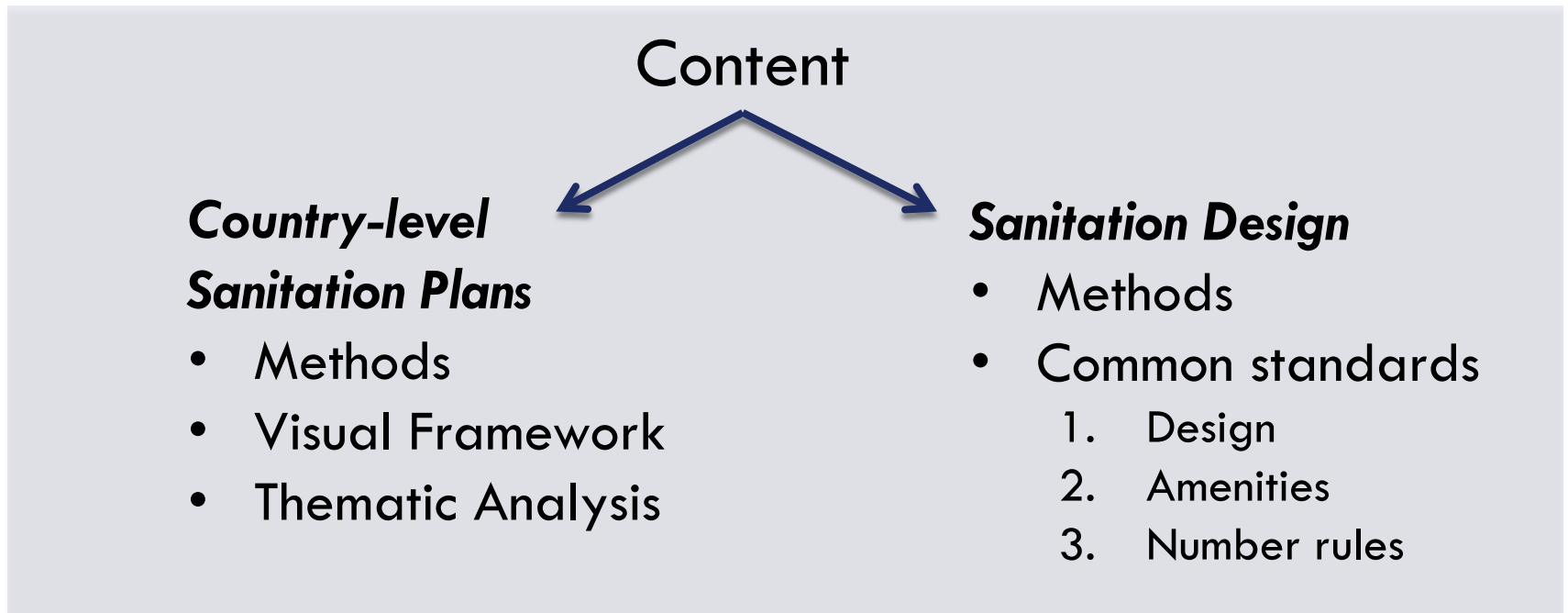


THE CURRENT SCOPE OF SANITATION PLANS & DESIGN

Gloria D. Sclar, Rachel Stelmach, Tom Clasen and
Kelly T. Alexander

Overview

□ Introduction



□ Recommendations for WHO Sanitation Guidelines

Introduction: Goal

To understand how countries and organizations are already addressing sanitation and health in order to help define the scope and context for the WHO Sanitation Guidelines

Introduction: Snapshot



If we took a snapshot of select countries and organizations, what sanitation themes would we see?

1. Which countries and organizations have developed sanitation plans?
2. What do these plans commonly address and what do they not address?
3. What kind of sanitation facilities are usually built and what are the standards used for design?

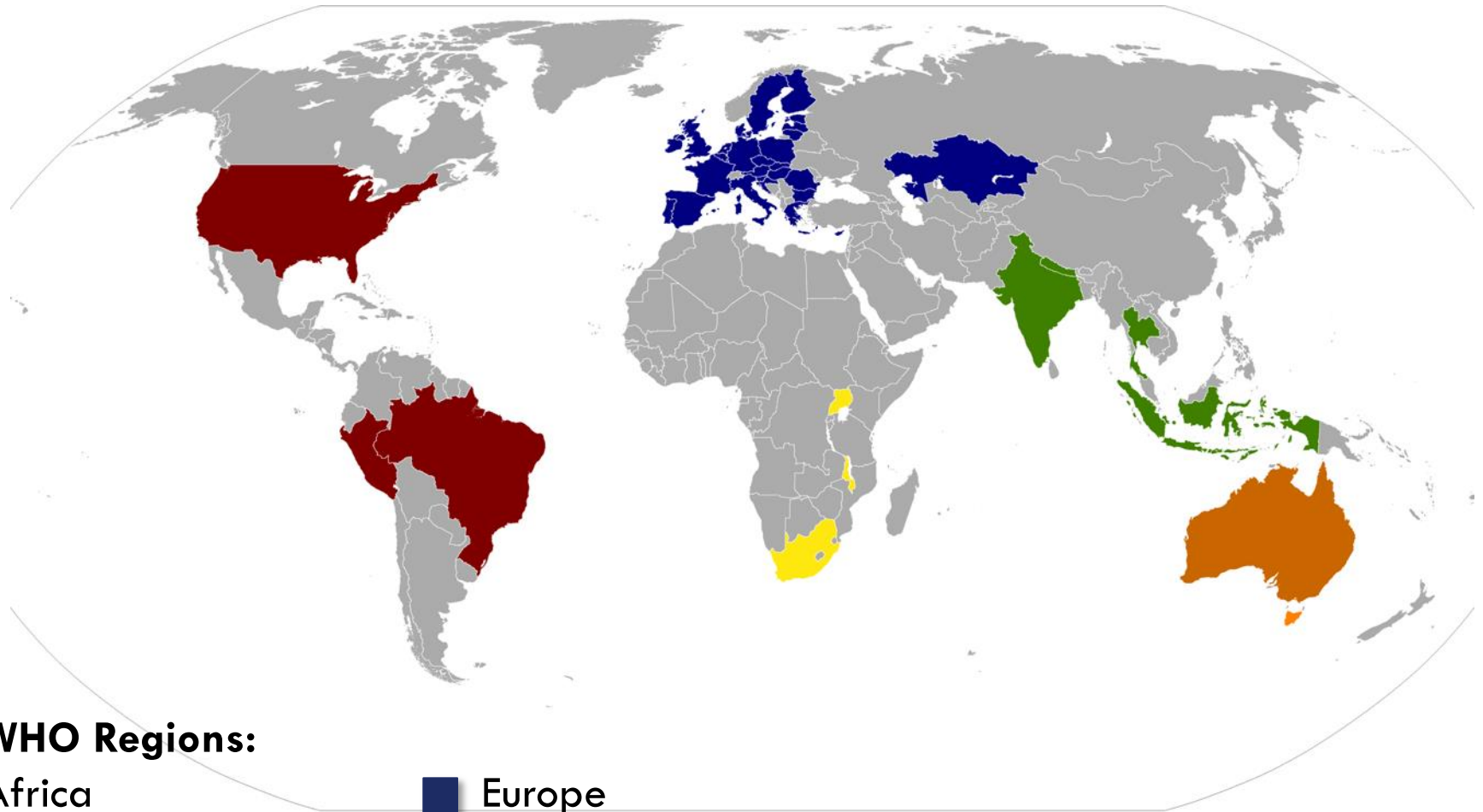
Country-level Sanitation Plans

Methods: Document Search

1. Searched on PubMed, Google and Google Scholar
2. Terms: “sanitation guidelines” “sanitation plan”
“government sanitation plan” “sanitation legislation”
3. Developed list of Country & Organizations (C&Os) based on:
 - ▣ Regional importance/representativeness
 - ▣ Documents available online
 - ▣ Language restriction

15 C&Os → 41 Documents

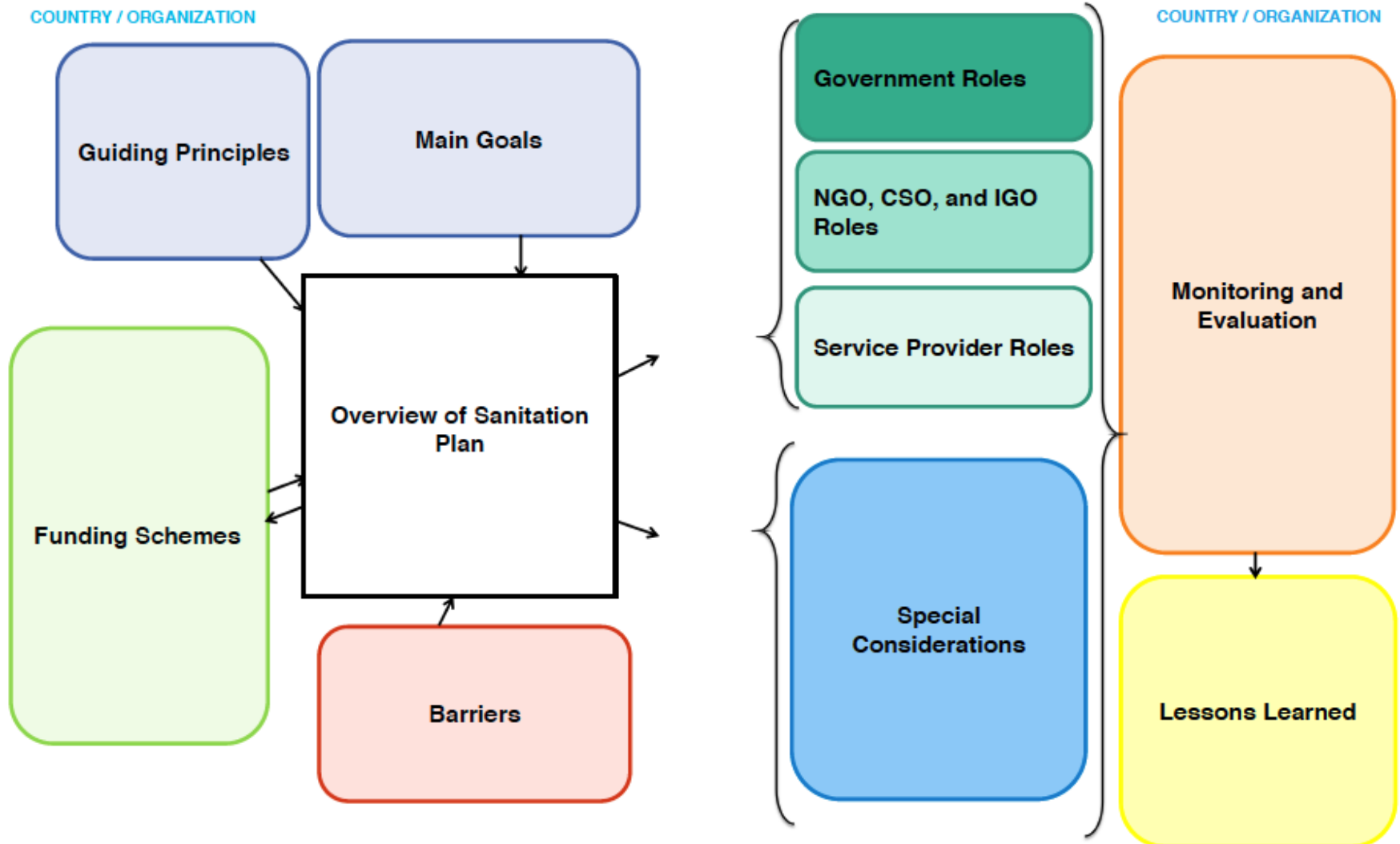
Map of C&Os



WHO Regions:

- | | |
|--|---|
|  Africa |  Europe |
|  Region of the Americas |  Eastern Mediterranean |
|  South-East Asia |  Western Pacific |

Methods: Document Framework



Thematic Analysis of Frameworks

Main Goals			
<u>Theme</u>	<u>Description</u>	<u>Counts (N = 15)</u>	<u>Countries & Organizations</u>
Access to sanitation	Increase access to adequate sanitation	12	AusAID, Brazil, India, Indonesia, Kazakhstan, Malawi, Nepal, Peru, South Africa, Thailand, Uganda, USAID
• Universal coverage	Access to sanitation for the entire country population	5	Brazil, Malawi, Nepal, South Africa, Thailand
• ODF status	Achieve open-defecation free (ODF) status on a national level	2	India, Indonesia
Health improvements	Improve health and quality of life, including reducing sanitation-related and waterborne diseases	6	France, India, Indonesia, Kazakhstan, Malawi, Nepal

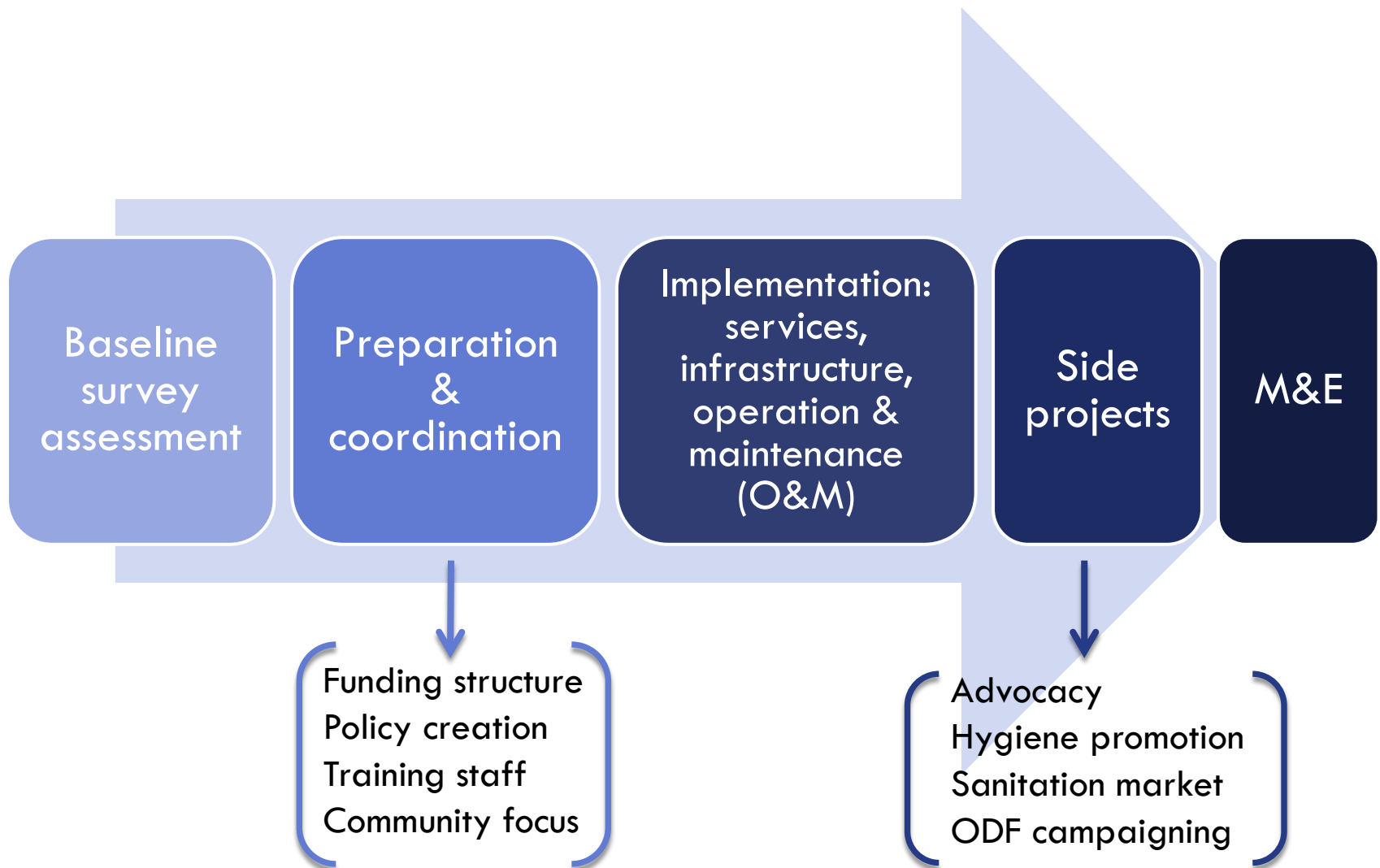
Thematic Analysis of Frameworks

Framework Section	Themes
Main Goal	<ul style="list-style-type: none">• <i>Access to sanitation (universal coverage)</i>• Health improvements• User preferences and behaviors• Sustainability• Wastewater management• Increase coordination of sanitation efforts

Thematic Analysis of Frameworks

Framework Section	Themes
Main Goal	<ul style="list-style-type: none">• <i>Access to sanitation (universal coverage)</i>• Health improvements• User preferences and behaviors• Sustainability• Wastewater management• Increase coordination of sanitation efforts
Guiding Principles	<ul style="list-style-type: none">• <i>Value of WASH (human right)</i>• Community involvement• Demand-driven approach• Political commitment and coordination• Programs appropriate for local context• Hygiene promotion must be included

Overview of Sanitation Plan



Thematic Analysis of Frameworks

Framework Section	Themes	
Financial Scheme	<i>Centralized</i> <ul style="list-style-type: none">• Service fees cover investment and O&M• Fees based off what users are able to pay• Government subsidies	<i>Household</i> <ul style="list-style-type: none">• Revolving funds/microfinance for O&M• Incentive systems

Thematic Analysis of Frameworks

Framework Section	Themes	
Financial Scheme	<p data-bbox="877 504 1112 544"><i>Centralized</i></p> <ul data-bbox="716 572 1248 865" style="list-style-type: none">• Service fees cover investment and O&M• Fees based off what users are able to pay• Government subsidies	<p data-bbox="1476 504 1692 544"><i>Household</i></p> <ul data-bbox="1315 572 1779 865" style="list-style-type: none">• Revolving funds/microfinance for O&M• Cross-subsidization• Incentive systems
Special Considerations	<ul data-bbox="716 972 1731 1322" style="list-style-type: none">• Local context• Vulnerable groups (gender, age, low-income)• School sanitation• Hygiene promotion• Environmental vulnerability• Community mobilization	

Thematic Analysis of Frameworks: *Outliers*

Framework Section	Themes
Stakeholder Roles	<ul style="list-style-type: none">• National vs. regional vs. local level roles• NGOs and Civil Society Organizations (CSOs)• Service providers

Thematic Analysis of Frameworks: *Outliers*

Framework Section	Themes
Stakeholder Roles	<ul style="list-style-type: none">• National vs. regional vs. local level roles• NGOs and CSOs• Service providers
Monitoring and Evaluation (M&E)	<ol style="list-style-type: none">1. Coverage2. Financial3. Environment (pollutants)4. Behavioral (use)5. Health (waterborne diseases)

Thematic Analysis of Frameworks: *Outliers*

Framework Section	Themes	
Stakeholder Roles	<ul style="list-style-type: none"> • National vs. regional vs. local level roles • NGOs and CSOs • Service providers 	
Monitoring and Evaluation (M&E)	<ol style="list-style-type: none"> 1. Coverage 2. Financial 3. Environment (pollutants) 4. Behavioral (use) 5. Health (waterborne diseases) 	
Challenges	<u>Barriers</u> Poor financing Poor planning/organization Poor infrastructure Lack of demand	<u>Lessons Learned</u> Government commitment Flexibility Adjust finances Collaboration Capacity building

Sanitation Design

Methods: Documents Search

- Searched on Google, Google Scholar and Organization websites (SNV, IRC, CRS, WEDC, WSP etc.)
- Terms: “latrine AND design,” “toilet AND design,” “latrine construction,” “how to build a latrine,” “latrine standards”

C&O Documents Analyzed → 11

ALL SETTINGS

- Emergency settings
- Health care facilities
- Workplaces
- Construction sites
- Schools
- Households
- Military camps
- National regulations

Types of Facilities

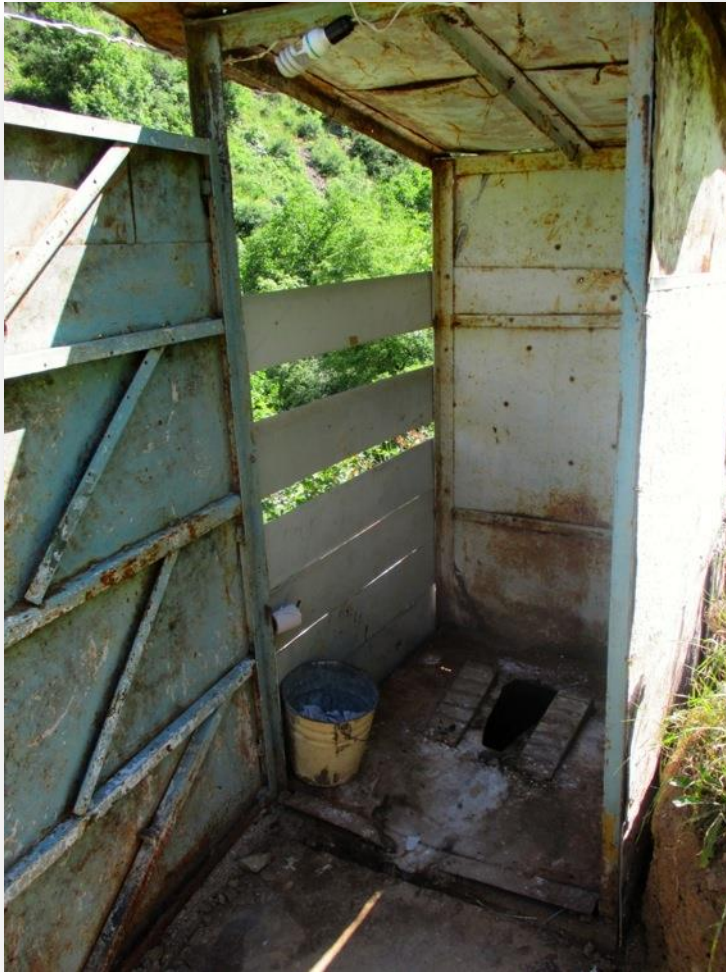
Short Term

- ❑ Open defecation field
- ❑ Trench latrines
- ❑ Portable toilets

Long Term

- ❑ Simple pit latrines
- ❑ Ventilated improved pit latrine (VIP)
- ❑ Double-pit latrines
- ❑ Vault latrine
- ❑ Composting latrine
- ❑ Septic tank latrine
- ❑ Pour-flush latrine

Design and Construction



- Size of latrine
- Superstructure qualities
- Materials used
- Squat slab, lid cover, toilet
- Pit dimensions/construction
- Ventilation (insects)
- Lighting

Restaurant bathroom - Tajikistan

Location and Coverage



Mt. Index National Park - Washington

Distance Rules:

$\leq 50\text{m}$ from home

$\geq 30\text{m}$ from groundwater source

Bottom of latrine $\geq 1.5\text{m}$ above
water table

Coverage: #latrines / #people

1:10 workplace, construction site

1:20 communities

3x more latrines for women

Handwashing & Amenities



Portable toilet design

- Menstrual hygiene management resources
- Hand washing
- Anal cleansing
- Toilet paper available
- Trash receptacles
- Adequate water for pour flush latrines
- 'Looscaping'

Maintenance and Cleanliness



Generic 'gas station' bathroom

- Practices of latrine users
- Repairs
- Method of disposal
- Time before emptying
- Frequency of cleaning
- Quality of cleanliness

Recommendations for: WHO Sanitation Guidelines

Health Outcomes

- Did not measure health impact due to sanitation
- *SanGuidelines should identify health indicators*

Local Context

- Adapted large-scale programs to local contexts
- *SanGuidelines should reiterate the importance of adaptation*

Stakeholder Commitment

- Need for involvement and cooperation of key actors
- *SanGuidelines should consult stakeholder groups to ensure guidelines enhance intersectoral collaboration*

Sanitation Design

- Design plans cross-referenced each other
- *SanGuidelines should review the evidence that supports these standards*

Resource Scarcity

- Financial barriers cited as a major problem
- *SanGuidelines could provide guidance on adapting sanitation systems to low-resource settings*

Acknowledgements!



Great appreciation and thanks to the ***WHO Endowment Fund & Rollins Earn and Learn Program*** for providing financial support in this mountainous endeavor!